

Environmental and Social Report Chartres 2002

Taking care of the environment and the people we affect through our activities is high on our list of priorities. We openly set out the results of our work, believing that they speak for themselves.



An important employer in Chartres

Novo Nordisk's factory in France is located three kilometres from the centre of the city of Chartres in an industrial area. The site covers an area of 40,257 m². At the end of 2002 there were 398 people employed at the site. Our factory has strong links with the local community. We were one of the first employers in Chartres and rank among the top five employers in the city measured by number of employees.





The Chartres site specialises in the production of 3.0 ml Penfill® insulin cartridges. The production plant dates back to 1961 and was expanded in 1998. In 2003 we will be further expanding our activities and starting production of FlexPen® – a new device for insulin injection.

Today, production comprises the formulation, filling and packaging of insulin products based on insulin crystals produced by Novo Nordisk in Denmark. In addition to production, other activities performed on the site include logistics, quality control and assurance, maintenance, and general support.

The products are exported to 10 European countries. Products for the French market are distributed directly from the Chartres site, and since January 2002 this distribution has been outsourced to an external company specialising in this kind of activity.

OUR IMPACT ON THE ENVIRONMENT Water, energy, human insulin crystals and preservatives are used in the formulation of the insulin product, and packaging materials are used in filling and packaging the products. In addition, cleaning agents and disinfectants are used for cleaning and sterilisation of the production area.

The main environmental impacts from our production and processes relate to wastewater and solid waste. Wastewater, which has a low content of pollutants, is discharged into the public sewage system. Non-hazardous solid wastes are now incinerated in accordance with new French regulations, while hazardous solid wastes are sent for controlled destruction, also in accordance with French regulations.

MANAGING OUR IMPACTS In order to ensure consistency between the strategic focus of Novo Nordisk and operational practice at all levels throughout the organisation, we use a management system called the Balanced Scorecard. This forms the basis for our target-setting within four main areas: customers & society, finance, business processes, and people & organisation. Social and environmental aspects have also been integrated into the Scorecard.

Furthermore, we are currently working on implementing an ISO 14001 Environmental Management System for certification in 2003.

The activities on the site are regulated by environmental permits issued and controlled by the *Direction Régionale de l'industrie de la recherche et de l'environnement* and the *District de Chartres*.

Contact

Eric Drapé
Vice President
edra@novonordisk.com
+33 (0)2 37 91 41 01

Expansion: meeting the needs of the market

2002 was a hectic year at the Chartres site. We increased production of Penfill® insulin cartridges from 33 million in 2001 to 71 million in 2002. In terms of volume, we are now the second largest production site for Penfill® 3 ml in Novo Nordisk. It is to the credit of our employees that we were able to achieve this result. Even though the main focus last year was on increasing production, we still met nearly all our social and environmental targets.

Eric Drapé, Vice President



The market for Penfill® insulin cartridges is expanding rapidly and we have been working hard to meet the increasing demand. We now run two filling units, NNPSA1 and NNPSA2. In NNPSA1, the two filling lines that formerly produced 1.5 ml Penfill® cartridges have been converted to produce 3.0 ml cartridges instead. NNPSA2 has two production lines, which used to work five and seven days a week respectively. Due to market expansion in 2002, we decided to run both lines in NNPSA2 round the clock seven days a week.

Such a significant increase in production is bound to have consequences for the machines and the people who use them. For one thing, we have had to increase our employees' competences in maintenance. And the increase in production has also meant hiring new employees, who have been trained in specific areas: filling, inspection, packaging, etc. This has put a lot of pressure on the experienced employees who, in addition to their work in production, have spent many hours training newcomers.

MINIMISING THE IMPACT ON EMPLOYEES We have strived to minimise the impact of the expansion on our employees' daily lives. Many of our employees are used to working Monday to Friday, and if we were to adopt a roster including weekend shifts it would undoubtedly affect the private lives of these employees. We have therefore taken on new employees who only work weekends and national holidays. Since some of our 'own' employees also opted to apply for these positions, we have achieved a good balance between old and new employees both during the week and at weekends.

There is of course a risk of isolating the weekend employees from the rest of the organisation since they are not known to most of the other employees. And it may also have consequences on a professional level if the communication between the weekend teams and the weekday employees proves inadequate. We have tried to address this potential problem by asking the managers/supervisors of the weekend operation to come in for a few hours every Friday so that they can be updated on matters by the weekday team.

MANAGING THE ENVIRONMENT IN CHALLENGING TIMES

Given the intense focus on production, we have unfortunately had less time to work on our social and environmental projects and activities. However, even though most of our time and energy have been spent on production, we have still managed to launch new initiatives and follow up on existing ones.

At the end of 2001 we had begun the process of implementing the ISO 14001 Environmental Management System. We continued this work during 2002 and plan to be certified during 2003. However, so far employees have shown little interest in the environment. It may be that it is simply proving difficult to implement the system under the increasing work pressure, or that we have been too weak in our communication. We will certainly be striving to improve our communication on ISO 14001 in 2003.

ACHIEVING MOST OF OUR TARGETS In 2002 we achieved most of the targets that we had set for our environmental performance. We managed to increase our production per consumed unit of both energy and water, and to implement a number of process improvements as planned. At the same time, we began the process towards certification of our Environmental Management System according to ISO 14001.

One project which had been targeted for implementation in 2002 was postponed until 2003 due to lack of resources.

SOCIAL AREA We are proud to say that we met all our social targets for 2002. The number of occupational injuries resulting in absence from work decreased markedly from 14 in 2001 to eight in 2002. We have also worked on a number of specific projects in relation to employee health & safety, which are explained in more detail elsewhere in this report.

FULL-TIME COMMITMENT TO HEALTH In accordance with French law, we have had a full-time nurse on the site since late 2001. Her presence not only allows us to launch new health-related initiatives, but also to continuously follow up on existing programmes. She has been particularly committed to improving the ergonomics of the working environment. Employees see her for a yearly health-check and know that she is available if they need support or guidance in health-related matters. During last year she was the key figure in our 'stop smoking' campaign, providing emotional and physical support to employees who want to quit cigarettes. During 2002 she conducted 'emergency' training for a number of volunteer employees.

SOCIAL AND ENVIRONMENTAL WORK IN THE FUTURE

As we hope to have our Environmental Management System certified in accordance with the ISO 14001 standard during 2003, we plan to increase our focus on environmental issues. One of the important elements in the standard is raising employee awareness of the environment. Employees should know how their work impacts the environment and help to identify initiatives that will reduce this impact.

As part of the ISO 14001 certification we intend to transfer the practice for cooperation with the local authorities in Denmark to the local authorities in France.

In the area of social responsibility our main focus will continue to be on training new employees in line with our continued growth. We would also like to carry out more activities to develop the competences of all our employees.

Since we estimate that the market will continue to expand, our plan is to increase production of Penfill® insulin cartridges from 71 million last year to 92 million in 2003. To achieve this target we need to maximise utilisation of our machines so that the four filling lines run almost at full speed.

The continuous increase in production in order to meet the demands of the market will require an expansion of our present facilities. We are working closely with the local community on planning this expansion. We are becoming more visible locally as we are now the biggest investor in the Chartres community.

Health & safety at the heart of our efforts

Our work on social responsibility in 2002 was influenced by the dual pressures of increased production and striving to minimise costs throughout the company. This led to a narrower focus in our work, but did not stop us from running a safe and responsible workplace. To achieve our production goals, we made changes in our employees' work schedules and hired another 50 employees for the production area.





Novo Nordisk in Chartres is considered to be a good place to work and we have no problems in finding or retaining staff. In fact, the employee turnover is extremely low – only 2.6% in 2002. It should be mentioned that the prospect of long-term job security that Novo Nordisk provides compared to other companies in the Chartres area is also an important factor.

One target for 2002 was to improve the speed with which we fill vacancies, particularly for technical staff. We have not been able to measure our progress in this area specifically, but we did manage to hire nine technical staff much faster than we used to. We may well be aided in this matter by general developments in the job market.

Another target for 2002 was to ensure that we are offering competitive salaries. We participated in a benchmark analysis of wages and benefits within our industry, which shows that overall we were at least at market level.

GROWTH AFFECTS EMPLOYEES For some employees, Novo Nordisk's growth, combined with the hiring freeze on non-production staff, has meant that the balance between work and family life has become harder to achieve. Everyone is working more and faster. There is a limit to these kinds of demands and we will have to make sure that we do not overstep that limit. For instance, we have seen a minor increase in absenteeism, which, although not yet worrying, is certainly

something that we need to keep an eye on in the future.

TRAINING ACTIVITIES With the recruitment of 50 new employees for the production area but no increase in HR staff due to the current hiring freeze at Novo Nordisk, almost all employee development activities in 2002 centred on the training of new employees.

Every new employee has a training plan including mandatory training in e.g. GMP (Good Manufacturing Practice). In addition, all employees have one or two days training on Novo Nordisk which explain the company's history and values, and the 'Novo Nordisk Way of Management'.

A target for 2002 was that we would ensure that 50% of our employees had development plans. This target was revised during the year as we zoomed in on what a development plan actually is at Novo Nordisk in Chartres. We are now looking at matching staff competences with job requirements at the site. Each job category requires certain competences, and it is the development of these specific competences that we are striving to support. However, as already mentioned, many planned training activities had to be cancelled or postponed in 2002, and we are carrying a revised version of this target over into 2003.

A GOOD SAFETY RECORD The health & safety work at our site is coordinated by the Hygiene, →

Social targets 2003

Implement an integration plan for new employees.

Continue the implementation of competence management.

Inform employees concerning DAWN (Diabetes Attitudes, Wishes and Needs).

Improve working conditions.

Safety and Work Conditions Committee, which is composed of staff representatives, a doctor, the company nurse, the site manager (VP), the health & safety manager, and representatives of the local community. The committee meets at least four times a year, or whenever it is deemed necessary, looks at all injuries and hazards, and determines how to improve health & safety on the site.

For 2002 our target was to keep the number of occupational injuries resulting in absence from work below 30. We achieved this target. In fact, we only recorded eight incidents resulting in absence from work, compared to 14 in 2001. We had one visit from the *Inspection du Travail* in connection with an injury suffered by a construction worker while working on a renovation project at our plant. The inspectors made no comment concerning the responsibility of Novo Nordisk.

Part of our health & safety work is carried out by the site's Environment and Safety Unit. Last year, in accordance with French law, we carried out a full risk evaluation for every job and every physical area on the site. We found only a few critical points, mainly relating to movement in the car park and in corridors, which we will be working on in future. We have added these items to our safety action plan, which we follow up on twice a year.

In 2002, we also worked to improve the safety of the site by creating a hazardous waste register in accordance with French law so that a list of hazardous wastes and other substances, together with the relevant safety sheets, is available and accessible in one place.

HEALTH ON THE AGENDA For 2002 the company nurse was asked to develop a health awareness programme. A full-scale programme was not possible due to the company's general fo-

cus on minimising costs. However, a number of activities were carried out, including an anti-tobacco campaign, which is described in more detail on page 9. A plan was also drawn up to make the food in the cafeteria more healthy and to provide information on food and nutrition in general. We take this kind of activity very seriously, particularly as we work in the area of diabetes, where it is important to know how to maintain a healthy diet and lifestyle (we have observed that people tend to put on weight when working here!). Our initiatives are in line with the stated wishes of our employees.

EQUAL OPPORTUNITIES We base our equal opportunities policy on French law, which prohibits all forms of discrimination and harassment. No complaint procedures were initiated by employees or the authorities in 2002. Under French law we are not allowed to measure the proportion of employees of non-French origin. It is our impression, however, that we reflect the surrounding region in which our employees live, which has a fairly diversified population. In terms of gender, we have equal representation at management level.

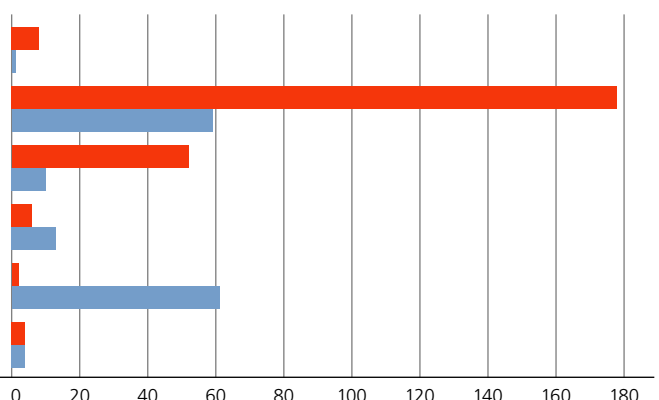
SPONSORSHIP INITIATIVES REFOCUSSED ON HEALTH In 2002 our aim was to refocus our sponsorship activities on more health-related activities. We therefore terminated our sponsorship of the cultural event *Journées Lyriques de Chartres* and instead focused on supporting health-related initiatives originating from employees. Among others, we sponsored a large-scale run between a municipality close to Chartres and its twin town in Germany, and the local girls' handball team.

We also supported the expansion of Novo Nordisk Chartres' sports association, which now boasts football and tennis sections.

Our employees	2000	2001	2002
Total number of employees	210	318	398
Number of full-time employees	201	305	337
Number of part-time employees	9	13	61
Average age distribution (years)	35.8	34.3	34.2
Average years of service	6.8	5.1	4.8
Employee turnover (%)	5.8	3.4	2.6

Occupational injuries	2000	2001	2002
Frequency of occupational injuries	8.9	28	13
Number of lost-time injuries	3	14	8

Gender representation	2001	2002	
Administration	female	8	8
	male	1	1
Production		130	178
		43	59
Quality Control		45	52
		9	10
Logistics		6	6
		6	13
Technical Service & IT		4	2
		56	61
Management		5	4
		5	4





HEALTH

Proactive anti-tobacco campaign

Part of last year's initiative to promote a healthy life style was an anti-tobacco programme to help employees stop smoking, which was planned and implemented by our nurse. The programme has several elements. We provide information on the dangers of smoking. The nurse distributes nicotine patches free of charge to those who join the programme. Meetings are held once a month for all participants in the programme so that they can talk about their experiences, exchange advice and ask questions. Finally, the nurse is available for consultation on demand. For the first round of the programme some 24 people joined up, and by the end of the year nine people were still successful in not smoking, which we consider a good success rate.

The background to this campaign, besides our general focus on health, was that we had made all buildings no-smoking areas in 2001. We wanted to work on a dimension other than prohibition, and decided to set up this campaign and support programme. The campaign has been well received by employees and by the local health community.

SUPERVISION

Working conditions under the microscope

Starting in 2002, the company nurse and the doctor assigned to the site have been inspecting different work areas to observe the physical working environment

and how it can be improved in terms of e.g. arranging the equipment differently. They will be inspecting a number of departments. In 2003 for example, they will be inspecting packaging, which has a lot of heavy equipment, and the sterile area to see if the work can be made more comfortable in spite of the requirements relating to clothing and other safety measures. This is not mandatory or required by law, but we consider it an important activity for the safety and well-being of our employees.

LINKS

Solving personal problems

In order to help employees who have problems in their personal lives, we have hired an external welfare advisor, who will be visiting the site once a month. The advisor knows the administrative system in France very well and can point employees to where they can find the support that they need. We think this is very important since issues in an employee's personal life naturally impact their work experience. The initiative has received positive feedback from employees and employee representatives so far, although the project has only been running since November 2002. It will need to run for a longer period before the company and employees can assess its value.

PERSONAL IMPACT

Meeting people with diabetes

In 2002 we arranged a meeting between our employees and some people with diabetes with participation mandatory for all employees. Together with the nurse and the doctor, the people with diabetes talked about the reality of living with the condition, preventing diabetes, the first signs, etc. This had an impact. As well as making employees aware of the living conditions of people with diabetes, many employees approached the nurse the following week to have their blood sugar levels tested, a sure indication that the meeting prompted employees to carefully consider their own health.

SAFETY

New shoes for employees

In 2002 we decided to implement a new range of safety shoes for all employees to increase safety in the workplace, and so we performed the process of trying out different shoes from different suppliers. This involved a number of employees from different areas of the site testing a particular kind of safety shoe for a limited period of time, after which we evaluated their experiences and impressions. On the basis of this, we chose a supplier.

SUPPLIERS

Positive evaluation of performance

During 2002 we evaluated eight key suppliers in terms of their social and environmental performance. Our purchasers evaluated the suppliers using a questionnaire which was sent out at the beginning of the year. Our aim is to help our suppliers improve their performance where necessary – not to terminate our business with them.

COMMUNICATION

New internal publication launched

The first edition of *La Lettre du Site de Chartres* was published in June 2002. This will be a quarterly newsletter which will help employees – particularly new ones – to get to know the site and its many different activities. The newsletter has an editorial committee with employee representation which decides on the content of each edition. The newsletter is mailed to employees' home addresses.



Committed environmental effort

While 2002 was characterised most by the huge increase in production, we still succeeded in using less water and energy per produced unit to achieve this production. Environmental management is an increasingly important part of our strategy for improving overall environmental performance, as can be seen in our activities in the environmental area in 2002.





We have taken two initiatives in 2002 which will help us focus our work on environmental issues. Firstly, through a reorganisation of tasks, we have created a dedicated Safety & Environment Unit. Secondly, we have set up an Environmental Team which covers the entire site. The team consists of 11 members, all of whom have been trained in the concepts and content of the ISO 14001 Environmental Management System. This will help us focus on and manage our environmental impact both now and in the future.

WORKING ON THE ISO 14001 STANDARD The most important environmental activity in 2002 was the continued process of implementing an Environmental Management System for the entire site according to ISO 14001. Certification is planned for the second half of 2003.

In 2002 we completed an analysis of the environmental aspects and impacts of our activities and processes. This was followed by work to assess the environmental impacts and prioritise our focus areas. We also started a full-scale analysis of our compliance with regulations. In order to achieve this, the Environmental Team has been hard at work and involved many of their colleagues. The training of all employees required by the ISO system is planned for the beginning of 2003.

OUR PROCESSES AND RESOURCES Water, energy, human insulin crystals and preservatives are used in formulating the in-

ulin product. In addition, packaging materials such as glass cartridges and vials, aluminium caps, rubber stoppers, paper, cardboard and plastic are used for filling and packaging the products. Finally, auxiliary chemicals such as cleaning agents and disinfectants are used for cleaning and disinfecting the production area. The use of sterile water and sterile production conditions is critical to the success of our product formulation and filling.

The human insulin crystals are produced by Novo Nordisk in Denmark. Water comes from the public water supply network and originates from groundwater. Energy is provided in the form of heat and steam generated by on-site boilers using natural gas supplied by Gaz de France (GDF) and electricity supplied by Électricité de France (EDF) based on a mix of energy sources.

IMPROVING OUR PROCESSES We installed a new water purification system in 2002, switching from an ion exchange process to a reverse osmosis process for purifying the water we use as WFI (water for injection). This means that we no longer use resins – nor sodium hydroxide and hydrochloric acid for regenerating them – and that solid waste is no longer generated by the water purification process. It was not only environmental considerations that prompted us to introduce this technology, but nevertheless it significantly reduces the environmental impact from the water purification process. →

Environmental targets 2003

Wastewater: secure and optimise the neutralising tank to prevent overflow.

EPIs: Increase productivity by 5% per consumed unit of water and by 10% per consumed unit of energy compared to 2002.

Continue implementation of an Environmental Management System according to ISO 14001 for certification in 2003.

Finalise ongoing activities, documentation, training.

Analyse and draw up an action plan for existing breaches of regulatory limit values (pH, chlorides, temperature).

No other breaches of regulatory limit values.

Follow-up on environmental supplier survey.

No accidental releases.

No complaints.

All these actions have been defined in our internal EAP (Environmental Activity Plan) and targets have been defined in our BSC (70% of actions should be completed in 2003).

In planning for the building of a new production facility for FlexPen®, which will begin production in 2003, we have worked to ensure that we consider safety and environmental issues. One example concerns the design of the ventilation system for exhausting formaldehyde emissions deriving from the injection moulding of plastic components. Another example is the investigation of new types of battery like gel batteries.

USE OF RESOURCES In general, the consumption of resources increased from 2001 to 2002 due to a substantial increase in production. As part of our sustainable development strategy, we are continuously striving to minimise our consumption of resources per produced unit. We had two targets relating to water consumption for 2002: to increase productivity by 20% per consumed unit of water; and to reuse process water in cooling towers with a water-saving potential of 600 m³/month.

Water consumption in 2002 amounted to 110,000 m³, which was a 19% increase compared to 2001. Production, however, increased even more, and we thus achieved a 38% increase in productivity per consumed unit of water, which more than met our target for 2002.

Unfortunately, the reuse of process water in cooling towers was once again postponed due to prioritisation of production-related activities and our work towards ISO 14001 certification.

The target for energy in 2002 was to increase productivity by 25% per consumed energy unit. Energy consumption rose from 113,000 GJ in 2001 to 121,000 GJ in 2002. However, in terms of production we achieved a 54% increase in productivity per consumed unit of energy, thus meeting the target for 2002. We also stopped using fuel oil as a result of the removal of our emergency generators, which were the only equipment to use this type of fuel.

The main consumption of water and energy is in utilities which we have to keep running regardless of our level of production. Over the past few years we have increased production substantially while maintaining a relatively stable consumption of water and energy, which has naturally had a dramatic impact on the relationship between consumption and production. It is this relationship that we use to measure improvements in our performance. However, we will probably soon reach the natural limit for such improvements and will need to find new ways of improving performance. Since performance in this area is linked to the size of our budgets, we are fairly confident that motivation will remain high. Furthermore, an Environmental Management System such as the one we are implementing at present provides a tool for focusing our environmental efforts.

WASTEWATER The wastewater from the site is composed of process wastewater from cleaning

activities, wastewater from laboratories, sanitary wastewater and rainwater run-off from storage areas and other areas impervious to water. The wastewater is discharged into the public sewage system and treated in the municipal wastewater treatment plant, which is a biological plant with nitrification and denitrification. Afterwards, the treated wastewater is discharged to the Eure river.

The discharged wastewater generally complies with the regulatory limits laid down by the environmental authorities. Our monitoring programme to document compliance with regulatory limits covers wastewater and includes continuous measurements of pH and temperature and analysis of weekly samples for COD, BOD₅, N-total, P-total and suspended solids.

In 2002 we performed a detailed wastewater analysis with frequent measuring and review of pH, temperature and flow, resulting in improvements to our aqualyse system. We have also introduced procedures to analyse trends over the week to try to understand exactly why these deviations occur and how we can quickly respond when they do.

Our target for wastewater in 2002 was to complete the modifications to the sewage system which would completely separate rainwater from wastewater in order to improve our wastewater monitoring. We achieved this target, thus improving our environmental monitoring. In the future, this may also lead to financial savings since we should only be taxed on releases of wastewater – which can now be measured separately from rainwater. However, this will need to be settled with the authorities before we can derive any benefits. With this done, we will be in full compliance with the regulations for the treatment of wastewater.

Due to increased production, our amount of wastewater increased from 71,000 m³ in 2001 to 83,000 m³ in 2002.

SOLID WASTE Solid waste from production and related activities comprises non-hazardous waste such as cardboard, paper, plastics and glass, and hazardous waste such as chemicals and bacteriological waste.

Cardboard used in the packaging of goods delivered to the site is recycled by the company SITA+, as well as paper, plastics and glass. We used to send these latter items to a municipal landfill, but a target for 2002 was to switch our disposal method for paper and plastics to incineration with energy recovery. We achieved this target since the handling of this type of waste is now also taken care of by SITA+. This change in waste handling methods explains the significant increase in incinerated waste and the decrease in landfill waste from 2001 to 2002.

Chemical wastes generated by the Quality Control (QC) department during analyses are collected in suitable drums and sent to Labo Services for controlled destruction. Bacteriological →



EDUCATION

Environment according to ISO 14001

In April 2002 our environmental coordinator participated in an ISO 14001 one-week training programme with a view to implementing this standard at the Chartres site. We have also signed up for a training programme that will allow us to have an internal ISO 14001 auditor.

AWARENESS

Environmental alert website

In 2002 we registered with an environmental alert website, which means that we will automatically be made aware of any changes in environmental legislation in France. This will promote the company's general awareness of environmental regulations and trends, thus allowing us to remain compliant. We have also joined a network of companies who work on environmental issues in order to keep up to date in this area.

Furthermore, we are members of the Chamber of Commerce and Industry, a public body which has representatives from all local authorities and companies.



We meet quarterly to discuss, among other things, environmental issues, and take part in their educational activities on environmental issues.

In 2002 we made an effort to raise our employees' awareness about environmental issues by putting up posters in different parts of the site, explaining about our environmental impact and the way each employee can contribute to improving the environment at our site. However, we have not received much feedback.

PROFESSIONAL ADVICE

Using university contacts



Since November 2001 our environmental coordinator has been following an education programme at the local university on quality, environment and safety. This has brought us into contact with a number of academics, each of whom is highly skilled in their respective field and whom we can turn to for advice when needed. They are also well versed in French environmental regulation and so we can use them as consultants in our work in this regard.

RECYCLING

Dealing with waste office equipment

We have reached an agreement with SITA+ – the company that handles our paper and plastic waste – to take care of used PCs and IT hardware from our site. This is new for us, and the idea came about as a result of our focus on waste, etc., through the work we have already done in relation to the implementation of ISO 14001.

Furthermore, we have installed some



new containers for used batteries – we now have six collection points. Batteries are collected by Tritouplus, a company that takes care of this kind of waste.

Our used ink cartridges are also collected and handled by a company that partially recycles them. We have signed a contract with the group Handiterre, which employs only handicapped people. In this way we are combining our three bottom lines (environmental, social and economic) since they are a non-profit group and do not charge us for handling our cartridges.

wastes generated by the QC (microbiology) department are collected in suitable boxes and sent to the company ARCANTE for incineration.

Our total amount of solid waste increased from 300 tons in 2001 to 367 tons in 2002 due to the increase in our production.

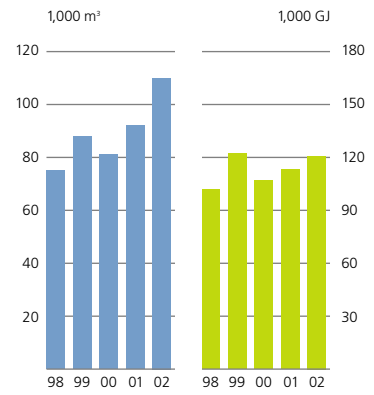
AIR EMISSIONS AND NOISE Air emissions from the site comprise carbon dioxide, sulphur dioxide and nitrogen oxides from the generation of heat and steam on site, from the burning of natural gas, and from external production of electricity. Despite a 7% increase in energy consumption, emissions of CO₂, SO₂ and NO_x fell by 14%, 81% and 16% respectively from 2001 to 2002. We believe this is primarily due to progression towards the use of more environmentally friendly energy sources.

The main sources of external noise are four cooling towers situated outside our buildings. Measurements carried out at the very end of 2002 showed that we are below the regulatory limits for noise emanating from the cooling towers.

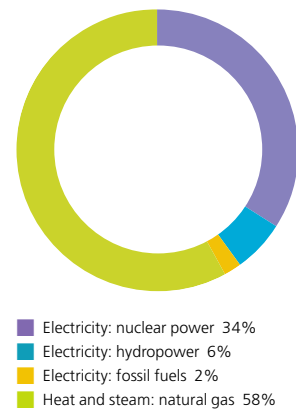
ACCIDENTAL RELEASES AND NUISANCES The most likely accidental releases would be from the filling of storage tanks for acid (hydrochloric acid) and base (sodium hydroxide). Any such releases would run into the rainwater system, which can be blocked to prevent the released chemical from being discharged into the environment. We did not have any accidental releases in 2002.

Activities on the site do not cause any nuisances for our neighbours. The nearest neighbours are other companies located around 50 metres from the site, and the nearest residential neighbours are located around 200 metres from the site. We did not receive any complaints during 2002 (or indeed in earlier years).

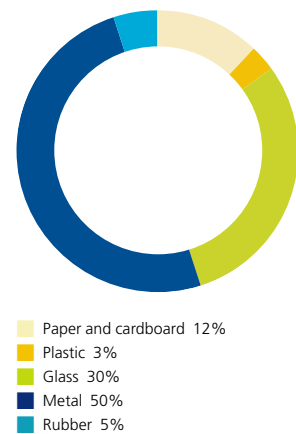
Water and energy consumption



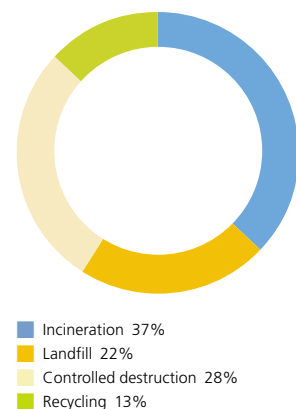
Breakdown of energy sources



Breakdown of packaging materials



Waste disposal



Environmental data 1998–2002

	Unit	1998	1999	2000	2001	2002
Water						
Drinking water	1,000 m ³	74.5	87.5	81.4	92.4	110.1
Energy						
Energy (total)	1,000 GJ	102	122	107	113	121
External (electricity)	1,000 GJ	40.2	46.6	44.8	47.5	50.6
Internal (subtotal)	1,000 GJ	61.8	75.8	62.4	65.9	70.2
Fuel oil (light)	1,000 GJ	2.9	2.0	0.8	1.4	0.0
Natural gas	1,000 GJ	58.9	73.8	61.6	64.5	70.2
Materials						
Materials (total)*	tons	290	314	455	670	1 216
Raw materials*	tons	25	17	24	6	9
Packaging materials*	tons	265	297	431	664	1 207
Wastewater						
Volume	1,000 m ³	64.1	70.1	62.4	71.1	82.6
Suspended solids	tons	–	10	12	9.7	11.0
BOD	tons	–	–	4.0	2.7	4.0
COD	tons	–	12	13	12	20
Nitrogen	tons	–	1.0	1.0	0.6	0.8
Phosphorus	tons	–	0.8	1.0	1.0	1.6
Other waste						
Other waste	tons	201	282	268	300	367
Incineration	tons	49	117	96	66	138
Landfill	tons	96	109	113	133	80
Controlled destruction	tons	8.4	10	9	51	103
Recycling (subtotal)	tons	48	46	50	50	46
Metal	tons	0	0.9	1.0	0.4	0.6
Mineral oil	tons	0.5	0.4	0	0	0
Paper & cardboard	tons	39	32	39	43	32
Wood	tons	8.6	13	10	6.3	13.6
Emissions to air						
Ozone-depleting substances	kg	0	0	0	0	105
Carbon dioxide (CO ₂)	tons	4,896	5,898	5,052	5,355	4,605
Sulphur dioxide (SO ₂)	tons	7.5	11	8.0	11	2
Nitrogen oxides (NO _x)	tons	12	11	9.0	6.6	5.6
Environmental Impact Potentials						
Global warming	tons CO ₂ -eqv.	4,900	5,900	5,052	5,355	4,783
Ozone layer depletion	kg CFC ₁₁ -eqv.	0	0	0	0	4
Acidification	tons SO ₂ -eqv.	16	16	15	15	6
Eutrophication	tons NO _x -eqv.	16	45	53	44	63
Compliance and complaints						
Breaches of regulatory limits		0	0	0	10	0
Regulatory limits with repeated breaches		0	0	0	2	0
Accidental releases		0	0	0	0	0
Complaints		0	0	0	0	0
Stockpile of Ozone Layer-degrading Substances						
CFC	kg	115	0	0	0	0
HCFC**	kg	405	594	549	549	512
Halons	kg	13	0	0	0	0

* The figures for materials for 2001 have been amended from those given in last year's report in which an error was made in distinguishing raw materials and packaging materials.

** The figures for the stockpile of HCFCs for 1999, 2000 and 2001 have been amended from those given in last year's report to incorporate plant not previously included.



Novo Nordisk is an international pharmaceutical company. We offer a wide range of insulin products, products for the treatment of growth disorders and blood coagulation disorders, and products for hormone replacement therapy. Novo Nordisk is headquartered in Bagsværd, Denmark, and has production facilities in Denmark, France, the USA, Brazil, South Africa, Japan and China. We have around 18,000 employees worldwide. We are part of the holding company Novo A/S, which is also headquartered in Bagsværd, Denmark. We are committed to the integration of sustainable development into the management of our company. This is being done on the basis of the Novo Nordisk Way of Management, which includes the company's Vision and Policies, and the Novo Group Charter, which sets out our Values, Commitments and Fundamentals. We aim to be sustainable not only financially but also in terms of social and environmental responsibility. We also report on how the Group as a whole is working with the Triple Bottom Line in practice. You can order the Group report and download the Chartres report (in English and French) from: www.novonordisk.com/sustainability

Novo Nordisk Pharmaceutique SA
45 avenue d'Orléans
28 000 Chartres
France

Tel. +33 (0)2 37 91 41 00
Fax +33 (0)2 37 30 18 77

www.novonordisk.com

